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PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Warner et al.

) Examiner: Marcus Charles

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) Art Unit: 3682

Serial No.: 09/752,136

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Filed: December 27, 2000

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For: VARIABLE SPEED DRIVE  
SYSTEM

) Attorney Docket: 12052/04000

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Assistant Commissioner for Patents  
Washington, D.C. 20231

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AMENDMENT

PETITIONS OFFICE

Mr. Charles:

In response to the Office Action dated September 25, 2002 for the above-identified patent application, reconsideration of this application is respectfully requested.

## In the Specification:

Please amend the "Brief Description of the Figures" on pages 3-5 as follows:

FIG. 1 is a schematic view of the variable speed drive system showing sectional views of the controllable and auto-tensioning pulleys;

FIG. 2 is a schematic view of the controllable and auto-tensioning pulleys and various accessories;

FIG. 3 is a sectional view of an embodiment of the invention using a counterweight system;

FIG. 4 is a sectional view of an embodiment of the invention using a non-rotating chamber system;

FIG. 5 is a sectional view of an embodiment of the invention using a second embodiment of the non-rotating chamber system;

FIG. 6 is a sectional view of an embodiment of the invention using a non-rotating chamber located adjacent to the mounting point of the controllable pulley;

FIG. 7A is a sectional view of an embodiment of the invention using a hydraulic or pneumatic cylinder to move a contact flange;

FIG. 7B is a sectional view of a second embodiment of the invention using a hydraulic or pneumatic cylinder to move a contact flange;

FIG. 7C is a sectional view of a third embodiment of the invention using a hydraulic or pneumatic cylinder to move a contact flange;

FIG. 8 is a sectional view of an embodiment of the invention using an electro-mechanical linear actuation device to move a contact flange;

FIG. 9 is a sectional view of an embodiment of the invention using a thermally responsive material to move a contact flange;

FIG. 10 is a sectional view of an embodiment of the invention using a magnetic actuation device to move a contact flange;

FIG. 11 is a sectional view of an embodiment of the invention using a pulley with two movable contact flanges;

FIG. 12 is a sectional view of an embodiment of the invention using a pulley with two hydraulically movable contact flanges;

FIG. 13 is a sectional view of an embodiment of the invention using two controllable pulleys;

FIG. 14 is a sectional view of an embodiment of the invention using a spring venting system;

FIG. 15 is a schematic view of an the variable speed drive system showing sectional views of an embodiment of the controllable and auto-tensioning pulleys;

FIG. 16 is a perspective view of a vehicle into which the variable speed drive system may be installed; and

FIG. 17 is a schematic view including an engine and pulleys of the variable speed drive system.

**In the Drawings:**

Please add new informal figures 16 and 17 as attached.

**In the Claims:**

Please amend claims 1, 14 and 17 as follows:

**1. A variable speed drive system for driving accessories comprising:**

a rotational member;

a controllable pulley in rotational communication with said rotational member, said controllable pulley including a first movable flange and a corresponding adjustable pitch radius;

an auto-tensioning pulley driven by said controllable pulley via a first belt, said auto-tensioning pulley including a first movable flange and spring for maintaining tension in said first belt and said auto tensioning pulley having an operating speed which is infinitely variable between a minimum pitch ratio and a maximum pitch ratio;

an actuating system for moving said first movable flange of said controllable pulley; and

one or more accessories which are driven by said auto-tensioning pulley via a second belt.

**14. A variable speed drive system for driving engine accessories comprising:**

an engine;

a first controllable pulley in rotational communication with said engine, said first controllable pulley including a first movable flange and a corresponding adjustable pitch radius;

a second controllable pulley driven by said first controllable pulley via a first belt, said second controllable pulley having a second movable flange, and an operating speed which is infinitely variable between a minimum pitch ratio and a maximum pitch ratio;

a first electro-mechanical actuating system for moving said first movable flange;

a second electro-mechanical actuating system for moving a second movable flange; and

a belt driving sheave attached to said second controllable pulley which drives one or more accessories via a second belt

17. A variable speed drive system for driving accessories comprising:
  - a rotational member;
  - an auto-tensioning pulley in rotational communication with said rotational member, said auto-tensioning pulley for maintaining tension in a first belt;
  - a controllable pulley driven by said auto-tensioning pulley via said first belt, said controllable pulley including a first movable flange and a corresponding adjustable pitch radius, and said controllable pulley having an operating speed which is infinitely variable between a minimum pitch ratio and a maximum pitch ratio;
  - an actuating system for moving said first movable flange;
  - a control logic module for receiving data from one or more sensing devices and for signaling the actuating system; and
  - one or more accessories which are driven by said controllable pulley via a second belt.

Please add the following new claims:

33. The variable speed drive system of claim 5 wherein one of the driven accessories is a vehicle power steering pump which is also said hydraulic pump located remotely from said controllable pulley.

34. The variable speed drive system of claim 10 further comprising a control logic module for receiving data from one or more sensing devices and for signaling the actuating system, said control logic module being the vehicle's on-board electronic engine control module.

35. The variable speed drive system of claim 6 wherein said sensing devices measure the speed of the driven accessories.

#### REMARKS

This Amendment is responsive to the Office Action of September 25, 2002. The Examiners determination of allowability of claims 11 and 12 if rewritten in independent form is acknowledged and appreciated. Reconsideration of the rejections of Claims 1-10 and 13-17 is respectfully requested. Additionally, consideration of Claims 31 and 32, submitted by